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(54) Title: IMPROVED PSEUDOTYPED RETROVIRUSES

(57) Abstract: Pseudotyped retroviruses having viral glycoproteins with modified O glycosylation regions are provided. Also provided are methods for making the pseudotyped retroviruses of the present invention and for using the pseudotyped retroviruses for transduction of target cells. Cells for stably producing the pseudotyped retroviruses or the present invention are also provided.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/17577

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 39/12
US CL : 424/199.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/185.1, 199.1, 207.1; 435/320.1; 536/23.4, 23.72

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/83730 A2 (KOBINGER et al.) 08 November 2001 (08.11.2001) see claims.	1, 3-9, 13, 14, 17-25
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A		2, 10-12, 15, 16
X	KOBINGER et al. Filovirus-pseudotyped lentiviral vector can efficiently and stably transduce airway epithelia in vivo. Nature Biotechnology. March 2001, Vol. 19, No. 3, pages 225-230.	1, 3-9, 13, 14, 17-25
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A		2, 10-12, 15, 16
Y	WATSON et al. Targeted transduction patterns in the mouse brain by lentivirus vectors pseudotyped with VSV, Ebola, Mokola, LCMV, or MuLV envelope proteins. Molecular Therapy. May 2002, Vol. 5, No. 1, pages 528-537.	1-9, 13-14, 17-25
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A		10-12, 15, 16
X	JOHNSON et al. Pseudotyped human lentiviral vector-mediated gene transfer to airway epithelia in vivo. Gene Therapy. April 2000, Vol. 7, No. 7, pages 568-574.	1, 3, 4, 7, 9, 14
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Y		2, 8, 13, 17-25

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

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INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P --- Y, P	JEFFERS et al. Covalent modifications of the ebola virus glycoprotein. Journal of Virology. December 2002, Vol. 76, No. 24, pages 12463-12472.	1-3, 5-25 ----- 4
X, P	SINN et al. Lentivirus vectors pseudotyped with filoviral envelope glycoproteins transduce airway epithelia from the apical surface independently of folate receptor alpha. Journal of Virology, May 2003, Vol. 77, No. 10, pages 5902-5910.	1, 3-10, 13, 14, 17-25

INTERNATIONAL SEARCH REPORT

PCT/US03/17577

Continuation of B. FIELDS SEARCHED Item 3:

WEST, DERWENT, STN-BIOSIS, MEDLINE, EMBASE, STIC-Sequence search
inventor search, lentivirus, retrovirus, filovirus, Ebola, gene transfer, glycosylation, SEQ ID NO:1